# Project Proposal

**Team:**

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**Project Name:**

- **SAGNAS - Safety Aware GPS Navigation Assistance System**

## Project Goal and Objectives

**Motivation:**

Our motivation for this application is to give users from major Cities like Chicago, Kansas City, New York, Seattle, etc. in The United States the ability to be more knowledgeable about their surroundings by providing them with crime updates and predicting how safe they are at any point of time based on their current location. We also provide the ability to share one's geo-location with other users of the application via shared rooms.

**Significance:**

The combination of our various web services, along with the different Hadoop-based tools (MapReduce, HBase, Solr, Mahout, and JAQL) makes for a powerful cloud-based application that predicts the future safety of a person. We are using the crime datasets from the following cities: Chicago, Kansas City, New York, San-Francisco, Seattle, and Atlanta. While the current system cannot handle real-time data updates from each city's crime database, it can be updated periodically by us, the developers (maybe with a week or two delay). The system will have flexibility to integrate other datasets from different cities in the future.

**Objectives:**

Our objectives are to provide accurate, easy to use information about local crime events for anybody to use. In doing so, we hope to educate people who want to take every measure to be as safe as possible. By providing a prediction system based on the crime history based on a specific region. Additionally, we want to let people feel safer by giving them the opportunity to share their location with people they trust at any time, regardless of Wi-Fi connection (GPS only is necessary).

The system will have an additional functionality so that users will no longer have to worry

when travelling alone. This feature shares your location information with your partners/friends/anyone who they trust and notify them using a single click of their device.

**Datasets:**

- Chicago(2001-present):
  - https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present/ijzp-q8t2
- San Francisco:
  - https://data.sfgov.org/Public-Safety/SFPD-Incidents-Previous-Three-Months/tmnf-yvry
- Seattle:
  - https://data.seattle.gov/Public-Safety/Seattle-Police-Department-Police-Report-Incident/7ais-f98f
- Kansas City:
  - https://data.kcmo.org/Crime/crime-data-kc/f6v5-vekn

**System Features:**

- Display crime events within a user's close surroundings
- Analyze crime data and provide recommendations to increase a user's safety
- Provides a simple interface that can adapt to any display size (laptops, PCs, mobiles, etc.)
- Allow users to get their current location.
- Allow users to get live directions from point to point.
- Allow users to locate the nearest police stations within a desired radius.

**Related work:**

- 911 - Call based

**Bibliography:**


- http://www.data.gov/open-gov/
- https://developers.google.com/maps/
- https://developers.google.com/chart/